REMARKS/ARGUMENTS

Claims 6 and 7 are canceled without prejudice. Claim 1 is amended. Claims 1-5 and 8-19 are pending in the application, of which claims 8-19 are withdrawn from consideration. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Support for the amendments to claim 1 are found in Applicant's specification at, for instance, original claims 2, 6 and 7.

Claim Rejections—35 U.S.C. § 102(b) and 103

In the outstanding office action, The following rejections have been made in regards to the claims:

1. Claims 1-3 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Van Ert et al. (US Patent No. 6,338,618);

2. Claims 1 also stands rejected under 35 U.S.C. § 102(b) as being anticipated by Nishizawa et al. (U.S. Patent No. 6,302,669); and

3. Claims 1-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al. (U.S. Patent No. 7,367,791) or Murata et al. ('791) in view of Nishizawa et al. (U.S. Patent No. 6,302,669).

In this response, claim 1 has been amended to include the limitations of claims 6 and 7. The office does not contend that that claim 6 or 7 are anticipated by or rendered obvious by either Van Ert et al. or Nishizawa et al. either alone or in combination with any other reference. As such, withdrawal of the rejections based on Van Ert et al and Nishizawa et al. is respectfully requested.

The rejection of claims 6 and 7 under 103(a) is rendered moot due to the cancellation of claims 6 and 7 without prejudice.

Applicant respectfully submits the amended claim 1 patentably distinguishes over the cited prior art. Claim 1, as amended is as follows:

> A magnetic field molding device used in producing a ferrite magnet, comprising:
>
> a die for compression-molding a molding slurry, wherein the slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium and injected into the die,
>
> a magnetic field generating source for applying a magnetic field to the slurry within the die in a given direction, and
>
> a temperature control unit for controlling the temperature of the die into which the molding slurry is injected, by heating the die,
>
> wherein the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets, and
>
> wherein the die is provided with delivery paths for injecting the slurry into each of the cavities.

One embodiment of the present invention is generally directed a magnetic field molding device used in producing a ferrite magnet . The claimed device comprises a die into which a molding slurry produced by dispersing a powder mainly composed of ferrite in a dispersion medium is injected to be compression-molded. In one embodiment of the present invention, a slurry to be injected into a die is heated by controlling the temperature of the die to reduce the viscosity of the dispersion medium of the slurry. This allows the slurry to retain its dehydration properties at a high level during the molding process in a magnetic field, and to be efficiently dehydrated even in a die provided with a plurality of cavities. The ferrite magnets produced by the magnetic field molding device exhibit favorable properties, e.g., improved and stabilized product quality resulting from equalized density of the finally obtained molded body, reduced defective products, and improved yield in the production process. (Specification, at *e.g.*, p. 8, lines 3-13; Figures 9 and 10 and corresponding text).

A. Van Ert et al. (US Patent No. 6,338,618)

As an initial matter, Applicant submits that nothing in Van Ert et al. teaches or suggests a molding device "wherein the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets, and wherein the die is provided with delivery paths for injecting the slurry into each of the cavities." Applicant notes that these limitations were originally included as dependent claims 6 and 7 and the office did not reject these claims over Van Ert et al. either alone or in combination with other references.

Van Ert et al. is generally directed to an apparatus for molding articles, wherein the apparatus includes mold sections that are forcefully biased together by ambient air pressure. (Van Ert et al., :Technical Field). In Van Ert et al. the device includes a formable layer, such as TRU, PET or other formable plastic materials. (Van Ert et al., at 4:37-45.) In contrast the present invention requires "a die for compression-molding a molding slurry, wherein the slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium and injected into the die." Thus, the present claims are related to a magnetic field molding device used in producing a ferrite magnet, whereas Van Ert does not mention a ferrite magnet at all. In fact, there is no mention in Van Ert of a "ferrite," "powder," or "slurry. " And nothing in Van Ert et al. suggests that Van Ert et al. is suitable for or useable with a ferrite slurry as in the die of the present invention.

The magnetic field molding device according to the present claim 1 requires "a die for compression-molding a molding slurry". In contrast, mold halves 20, 22 in Van Ert are not for compression-molding a molding slurry. Therefore, mold halves 20, 22 in Van Ert are not a "a die for compression-molding a molding slurry" as required by present claim 1. And nothing in Van Ert et al. suggests the applicability of or the suitability of mold haves 20, 22 for compression molding.

The magnetic field molding device according to the present claim 1 also requires "a magnetic field generating source for applying a magnetic field to the molding slurry within the die in a given direction." Van Ert et al, in contrast, discloses a mold gap measurement device 56 including a magnet 58 attached to the mold half 20 and a magnetic force detection device such as a coil 60 attached to the mold half 22 behind the surface 29 for measuring magnetic force of the magnet 58. (Van Ert et al. at 7:8-17). Thus, the magnet 58 and coil 60 in Van Ert are not used for applying a magnetic field to a molding slurry as required by claim 1. And the examiner has made no showing that the magnetic field of the magnetic field measuring device in Van Ert et al. is sufficient for applying the magnetic field to a slurry as in claim 1.

The magnetic field molding device according to the present claim 1 also requires "a temperature control unit for controlling the temperature of the die into which the molding slurry is injected" and the molding slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium. In contrast, heating elements 27 in Van Ert are not used for controlling the temperature of the die into which the molding slurry is injected. Rather the heating elements are used to heat the formable layer 14 and/or the cover member 16. (Van Ert et al., at 4:62-5:5)

Finally, nothing in Van Ert et al. teaches the a molding device "wherein the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets, and wherein the die is provided with delivery paths for injecting the slurry into each of the cavities." These limitations were originally included in dependent claims 6 and 7 and the office did not reject these claims over Van Ert et al.

For at least all these reasons, the amended claims patentably distinguish over Van Ert et al.

2. Nishizawa et al. (U.S. Patent No. 6,302,669)

As an initial matter, Applicant submits that nothing in Van Ert et al. teaches or suggests a molding device "wherein the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets, and wherein the die is provided with delivery paths for injecting the slurry into each of the cavities." Applicant notes that these limitations were originally included as dependent claims 6 and 7 and the office did not reject these claims as anticipated Nishizawa et al..

Nishizawa et al. is generally directed to an apparatus and a method for producing a magnet roller which is incorporated in a developing roller, a cleaning roller, a toner carrying roller, or the like used for an electrophotographic copier, a laser beam printer, a facsimile, or the like. (Nishizawa et al., Field of the Invention)

Claim 1 of the present invention requires "a die for compression-molding a molding slurry, wherein the slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium." A molding slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium, is injected into the die, and is compression-molded by the die. Applicant's Specification describes:

> "[t]he suitable dispersion media include water and liquids having a viscosity of 0.70 [mPa·s] or less at normal temperature (20°C). These liquids include hexane, toluene, p-xylene and methanol or the like. Other dispersion media may also be used, so long as they have a viscosity of 0.70 [mPa·s] or less when injected into a heated die mentioned below". (Specification, at p. 12, lines 22-27)

In contrast, Nishizawa injection-molds the mixture of a resin binder and magnetic powder (Nishizawa et al, at e.g., 9:8-18). The resin binder is comprised generally of a polymeric material such as nylon 6, polystyrene, polyethylene terephthalate (PET), polybutylene terephthalate (PBT). *Id.* Thus, the material to be mold in the present invention is different in Nishizawa. Nothing in Nishizawa et al. teaches or suggests the suitability or use of the die of Nishizawa et al. for use with the slurries of the present invention.

Further, the magnetic field molding device according to the present claim 1 requires "a die for compression-molding a molding slurry". In contrast, metal molds 20, 30, 40 in Nishizawa et al. are used for magnetic field injection molding. (see *Id.* at 8:30-37) Nishizawa et al., at e.g. 10:15-29, also shows that metal molds in Nishizawa do not correspond to "a die for compression-molding a molding slurry" of claim 1 of the present invention.

Claim 1, as amended, requires "a temperature control unit for controlling the temperature of the die into which the molding slurry is injected, by heating the die." In contrast, Nishizawa discloses a "**cooling pipe, not shown, for controlling the temperatures of the molds** is built in the injection molding apparatus so that the temperatures of the mold 1 and the mold 2 are preferably maintained at 100 to 110°C. An injection hole 2A for injecting a resin magnetic material, which engages with the nozzle 5 of the injection molding apparatus, is provided above the molds 1 and 2". (Nishizawa et al., at 8:49-56 (emphasis added)) Although the cooling pipe of Nishizawa controls the temperature of the molds, it is used for cool the molds. In contrast, the temperature control unit of the present claim 1 controls the temperature of the die by heating the die. Thus, the cooling pipe of Nishizawa does not correspond to "a temperature control unit" of claim 1 of the present invention.

For at least all these reasons, the amended claims patentably distinguish over Nishizawa et al.

3. Murata et al. (U.S. Patent No. 7,367,791)

As amended, claim 1 of the present invention requires that "the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets, and wherein the die is provided with delivery paths for injecting the slurry into each of the cavities." In contrast, in Murata et al. discloses:

> "...as shown in FIG. 2, the device 1 has a work transferring section 5 for supporting the annular preformed body 81 and transferring it from the preforming section 2 to the magnetic field orienting and forming section 3 while supporting the annular intermediate formed body 82 and transferring it from the magnetic field orienting and forming section 3 to the main forming section 4". (Murata et al. at 14:5-12)

Thus, as shown in FIGS. 1 and 2, a work is transferred from the preforming section 2 to the magnetic field orienting and forming section 3, and from the magnetic field orienting and forming section 3 to the main forming section 4 by the work transferring section 5. The device of Murata generally provides a die for a single magnet, not a plurality of cavities as in the present invention for producing a plurality of the ferrite magnets, and to provide the die with delivery paths for injecting the slurry into each of the cavities as in claim 1 of the present application. Moreover, the office has failed to provide any showing of how Murata could be modified according provide for a die with a plurality of cavities as required by the present invention.

Claim 1 of the present invention requires "a die for compression-molding a molding slurry, wherein the slurry is produced by dispersing a powder mainly

composed of ferrite in a dispersion medium." A molding slurry is produced by dispersing a powder mainly composed of ferrite in a dispersion medium, is injected into the die, and is compression-molded by the die. In contrast, Murata forms a compound as a mixture of an anisotropic magnet powder and a thermosetting resin such as a phenol resin, epoxy resin or thermosetting resin. (Murata et al., at 6:31-38) Also, in claim 1 of the present invention, a molding slurry is injected into the die, and is compression-molded by the die. In contrast, as shown in FIG. 1 of Murata, the compound 80 is moved on the first die 25 provided with the first lower punch 21 and first core 23, by the rubbing jig 281. As a result, the molding device structure of the present invention is different from that of Murata. And nothing in Murata et al. teaches or suggests a die suitable for use with the slurries contemplated by the present invention for compression molding.

Claim 1, as amended, requires "a temperature control unit for controlling the temperature of the die into which the molding slurry is injected, by heating the die." In contrast, the second heating means 37 of Murata is provided for heating the annular preformed body 81, and the third heating means 46 of Murata is provided for heating the annular intermediate formed body 82 (see Column 13, fifth and seventh paragraphs). That is, although Murata shows heating means 37 and 46, they are not used for heating the die to heat the molding slurry.

For at least all these reasons, the amended claims patentably distinguish over Murata et al.

4. The Combination of Murata et al. (U.S. Patent No. 7,367,791) in view of Nishizawa et al.

As described and explained above, even when combined, the combination of Murata et al. and Nishizawa et al. cannot render the present claims obvious

because the combination cited by the Office fails to teach or suggest all the limitation of amended claim 1.

With regards to claim 6 and 7 in the Outstanding office action, the Office contends that it would have been obvious to a person of ordinary skill to "modify Murata providing injecting nozzle connecting to the die cavities as taught by Nishizawa et al. in order to provide additional molding material to each mold cavity." Applicant respectfully disagrees.

In Nishizawa, the melted resin-bonded magnet material 10 is injected through a nozzle 5 as indicated by an arrow A into the hollow formed by the cavity wall surface segments 4B, 4C, and 4D of the mold 3, as shown in FIG. 1. Nishizawa et al. at 10:7-14) Conversely, in Murata et al, the compound 80 is moved on the first die 25 provided with the first lower punch 21 and first core 23, by the rubbing jig 281 as shown in FIG. 1. (Murata et al., at 22:64-23:2) Applicant respectfully submits that it is not within the capability of a person skilled in the art to replace the rubbing jig 281 of Murata et al. with the nozzle 5 of Nishizawa et al. This is because the nozzle 5 of Nishizawa is for injection-molding and it would be difficult, if not impossible, to provide the nozzle 5 and the "injection hole 2A in which the nozzle 5 of the injection molding apparatus is fitted for injecting the resin-bonded magnet material therethrough" to Murata, which is not an injection-molding system. And even if the rubbing jig 281 of Murata were replaced with the nozzle 5 of Nishizawa, Applicant respectfully submits that the combined teachings of Murata et al and Nishizawa et al. do not teach or suggest the invention of present claim 1 wherein the die is provided with a plurality of cavities for producing a plurality of the ferrite magnets, and the die is provided with delivery paths for injecting the slurry into each of the cavities.

5. Dependent claims 2-5

Claims 2-5 depend from claim 1 and are patentable for at least the same reasons as claim 1.

Provisional Claim Rejection—Double Patenting

Claims1-7 stand provisional rejected on the ground of nonstatutory-type double patenting as being unpatentable over claims 1-13 and 15-18 of co-pending "Application 11/534,27." A telephone call to Examiner Nguyen confirmed that the correct application number is Application 11/534,276.

In response, Applicant submits a terminal disclosure herewith. Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310)785-4600 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
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